

in ant nests, where it is to be supposed they are parasitic on the immature stages of the hosts.

DIPTERA.

FAMILY SYRPHIDÆ.

Several pupæ of a *Microdon*-like insect were found at Diquini beneath bark with colonies of *Pheidole flavens* Roger var. *haytiana*. These pupæ are small (4 mm. in length) and reticulately tuberculate. Between these tubercles the surface is smooth. The tegument is very thin. I was not able to rear any adults.

NOTES AND DESCRIPTIONS OF PIPUNCULIDÆ.

BY NATHAN BANKS,
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During the past few years I have taken a number of *Pipunculidæ*, and in going over the material with that named by Cresson I am able to identify most of them and find four species that are plainly new; a few other specimens may also be new. Several of the species I have taken in Virginia for the first time, making 27 species of *Pipunculus* from Virginia.

Pipunculus loewi Kertz.

A male from Glencarlyn, Va., 23 June, runs here in the table and agrees with the description. It has a banded abdomen as in my new species *cinctus*, but the hypopygium is larger, not cleft, and the stigma is shorter.

Pipunculus houghi Kertz. (*femoratus* Cr.).

A female from Falls Church, Va., 9 July, agrees with description and the male cotypes.

Pipunculus æquans Cr.

Various specimens from Chain Bridge, Falls Church, and Glencarlyn, Va., in June and July agree with a cotype.

Pipunculus varius Cr.

From Chesapeake Beach, Md., and Falls Church, Va., in September and October, agree with type from Pennsylvania.

Pipunculus sororius Cr.

This is common here in June, July and August. I think this should be *nitidiventris* Lw.

Pipunculus subvirescens Lw.

From Falls Church, Va., in June and August agree with description; the hind trochanter is rather angularly produced but there is no spine.

Pipunculus constrictus Bks.

Cresson has recorded a specimen that did not have a constricted abdomen, and I have taken a male, Falls Church, Va., 14 May, which also has the abdomen normal; the appendiculate vein (as in type) is very short, and in one wing practically obsolete, but the vein angularly bent at that place.

Pipunculus brevis Cr.

Specimens from Great Falls, 5 June, 13 August. All show the appendiculate vein as figured. The males (agreeing in venation with the females) have the abdomen rather narrow, the segments narrowly velvety black on base; on fifth segment interrupted in middle; the apical part of fifth rather silvery, and depressed in the middle; the hypopygium not bent under, hardly one-half as long and not nearly as wide as fifth segment, with an oblique cleft to the right, and of a dark brown color. In Cresson's table the male runs to *appendiculatus*, from which it is separated by normal occiput, velvety bands on abdomen, paler legs, etc.

Pipunculus fuscus Lw.

Various specimens from Falls Church, and Glencarlyn, Va., in June, July, August and September, are larger than *cingulatus*, the abdomen being longer and more slender; the tibiæ generally paler. The fourth section of the fourth vein is much more sinuate than in my specimens labelled *cingulatus*, but Cresson has figured it the opposite way.

Pipunculus caudatus Cr.

From Falls Church and Glencarlyn, Va., in May, June and September, specimens which agree with the type and have the quadrate hypopygium.

Pipunculus tarsalis Bks.

Males from Falls Church, Va., in August and September agree with the type from Ithaca, N. Y.

Pipunculus pallipes John (*houghi* Cr.).

Two from Falls Church, Va., 9 July.

Pipunculus subopacus Lw.

From Great Falls and Falls Church, Va., June.

Pipunculus confraternus Bks.

From Falls Church, Va., June, August, September.

Pipunculus discolor Bks.

One from Falls Church, Va., 7 September.

Pipunculus atlanticus Hough.

From Falls Church, Chain Bridge, Great Falls, Va., May and June. A variety with the abdomen wholly sericeous; also in June.

Pipunculus minor Cr.

From Great Falls and Falls Church, Va., May and June.

Pipunculus unguiculatus Cr.

From Falls Church, May and September.

Pipunculus latipennis sp. nov.

♀. Face and front silvery; third joint of the antennæ pale yellowish, long acuminate. Humeri pale; abdomen shining, but rather duller near base, and basal segment and below scutellum silvery; abdomen not twice as long as broad, bent down at tip, ovipositor short, hardly reaching one-third way to base, it and its base yellowish; legs pale, femora, especially the hind pair, discolored in middle; halteres pale, tip of knob brown. wings hyaline, veins dark, stigma distinct; the wing extremely broad near tip and broadly rounded; the fourth section of the costa twice as long as the stigma; the fourth section of fourth vein not nearly as long as the third section.

Length: 2.6 mm.

From Falls Church, Va., 4 July. The very broad wing will separate from all our known forms. It will run to *P. luteicornis* in the Cresson table.

Pipunculus terminalis sp. nov.

♂. Runs to *P. discolor* in the Cresson table; but only one-half as large, and antennæ and venation different. Face black; antennæ brown, last joint short,

rounded; thorax dark brown, humeri dark; abdomen velvety black, except last segment and the hypopygium which are smooth and nearly shining, and the base below scutellum which is silvery. Legs mostly blackish, knees pale; halteres brown. Wings long and narrow, slightly fumose, stigma distinct, longer than next section, fourth section of fourth vein much longer than third, and this fourth section does not bend up at once, but runs out for some distance before turning up; the posterior cross-vein fully its length from margin. The hypopygium broad, almost rectangular, with large apical cleft.

Length: 2 mm.

From Falls Church, Va., 28 June, 9 August, and Great Falls, Va., 21 September. This species is close to *varius*, but different in antennæ, black face, not shining abdomen, etc.

Pipunculus cinctus sp. nov.

♂. Face silvery; antennæ dark, last joint short acuminate, point whitish; humeri dark, but upper edge rather pale; halteres dark; legs mostly dark, knees and basal joints of tarsi pale; abdomen with a silvery band across apex of first four segments, basal part of three of them rather velvety black; hypopygium with apical cleft, much shorter than the preceding segment, not bent under. Wings rather infuscated, stigma dark, twice as long as next section of costa, third section of fourth vein not twice as long as second section; fourth section about as long as third, nearly straight from posterior cross-vein to margin, posterior cross-vein oblique.

Length: 2.5 mm.

From Falls Church, Va., 1 June, 7 September. From *semi-asciatus* (cotype) differs in smaller size, the straight fourth section of fourth vein, longer third section, etc.; *nigricornis* is said to have the bands interrupted, moreover it is larger.

Verrallia virginica sp. nov.

♂. Face and front silvery, eyes not quite touching; vertex black, with ocellar bristles; antennæ dark, last joint short, and rounded; thorax black; abdomen black, segments with a narrow silvery apical margin; last segment more gray; legs mostly black, knees and basal part of tarsi pale; halteres pale; wings hyaline, stigma distinct, fourth section of costa not quite as long as stigmal section, anterior cross vein plainly before middle of discal cell, fourth section of fourth vein appendiculate, the posterior cross vein more than its length from border. Abdomen slender, subcylindric, hypopygium asymmetrical; body and legs hairy, the scutellum with longer bristles.

Length: 4 mm.

From Glencarlyn, Va., 9 June. Williston in his "Manual" figures the wing of this species.

EXPLANATION OF PLATE XV.

- Fig. 1. *Pipunculus terminalis*, part of wing.
 Fig. 2. *Pipunculus latipennis*, wing.
 Fig. 3. *Pipunculus latipennis*, antenna.
 Fig. 4. *Pipunculus latipennis*, ovipositor.
 Fig. 5. *Verrallia virginica*, antenna.
 Fig. 6. *Pipunculus cinctus*, wing.
 Fig. 7. *Verrallia virginica*, tip of abdomen, above.
 Fig. 8. *Pipunculus terminalis*, antenna, tip of abdomen, above.
 Fig. 9. *Verrallia virginica*, wing.
 Fig. 10. *Pipunculus cinctus*, antenna.

SYSTEMATIC PAPERS ON NEW ENGLAND
HEMIPTERA.¹II. SYNOPSIS OF THE PENTATOMIDÆ.²

BY H. M. PARSHLEY.

With Plate XVI.

Family PENTATOMIDÆ.

1. First segment of the rostrum largely free, relatively short and thick; bucculæ small, more or less distinctly united under the rostrum posteriorly, hence converging; insertion of rostrum close to end of tylus (fig. 4)

First segment of rostrum largely embedded between the bucculæ, relatively slender; bucculæ large, not united posteriorly, hence more or less parallel; insertion of rostrum separated from end of tylus by a space about equal to width of basal segment (fig. 1) *Pentatominae* Kirk 2

4. ASOPINÆ.

¹ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 98.

² I have found the following works, among others, to be of especial assistance in the study of this family:

Stål: Enum. Hem. I., K. Sv. Vet.-Ak. Handl. IX., 1870. Oef. K. Vet.-Ak. Förh., XXIV., No. 7, 1867, p. 522.

Van Duzee: List. Pent. N. Am., Tr. Am. Ent. Soc. XXX., 1904, p. 1. Can. Ent., XLI., 1909, p. 369, and other papers.

Kirkaldy: Cat. Hem. I., 1909, and other papers.

Heymons: Beitr. Morph. u. Entw. Rhynch. Nova Acta Ac. Leop. Carol. LXXIV., 1899.

Summers: Pr. Iowa Ac. Sci., VI., 1908, p. 40.

Bergroth: Ann. Soc. Ent. Belg., LVIII., 1914, p. 24. Ent. News, XVIII., 1907, p. 48, and other papers.

Bredden: Beitr. Sys. Pent. Süd-am., Sitz. Ges. Nat. Fr., 10, 1907, p. 328.

Schouteden: Gen. Ins., Het., 1905-1907.

Torre Bueno: Ent. News, XXIII, 1912, p. 316.

Correction: PSYCHE, June, 1915, p. 93, in the description of the Pentatomidæ the tarsi should be given as 2- or 3-segmented.